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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,744	10/23/2003	Richard E. Kessler	200301781-2	8266

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
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EXAMINER

PUENTE, EMERSON C

ART UNIT	PAPER NUMBER
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2113

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/691,744

Applicant(s)

KESSLER ET AL.

Examiner

Emerson C. Puente

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-10,14-18 and 25-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-10,14-18 and 25-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

This action is made Final.

Claims 2-4, 11-13, and 19-24 have been cancelled.

Claims 1, 5-10, and 14-18 and 25-28 have been examined.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 5-10, 14-18 are rejected under 35 U.S.C. §102(b) as being clearly anticipated by US Patent No. 5,867,501 of Horst et al. referred hereinafter “Horst”.

In regards to claim 1, Horst discloses a multi-processor computer system, comprising:

a plurality of processors coupled together to permit messages to be transmitted from on processor to another processor (see figure 1B items 10A and 10B).

each processor having at least one timer that expires when message is not sent from the processor in a predetermined amount of time (see column 29 lines 10-14).

wherein each processor can send a plurality of different message types to other of said processors and each such other processor includes a separate timer associated with each of said message types to expire when a message of the associated message type is

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not sent from the processor in a predetermined amount of time (see column 29 lines 10-16).

In regards to claims 5, Horst discloses at least one register associated with each timer to permit the timer to be programmed (see column 28 line 65 to column 29 line 3).

In regards to claim 6, Horst discloses wherein each processor has at least one port connection to another processor and wherein each processor further includes a port timer associated with said port connection (see figure 1A, 1B, and 1C and column 12 lines 16-65, column 29 lines 6-8).

In regards to claim 7, Horst discloses wherein each port timer increments if the associated port is being used to send messages. Horst indicates begin marking a timeout period within which a response should be received (see column 29 lines 1-3).

In regards to claim 8, Horst discloses wherein the port timer is reset when a message is sent from the port (see column 29 lines 8-9).

In regards to claim 9, Horst discloses wherein the port timer is reset when a message is sent from the port that indicated that the receiving processor has freed up an entry in an input buffer. Horst discloses in every initiation of a transmission, a timer is reset (see column 29 lines 5-6). Each reset of a timer means that a previous transactions has been completed, indicating entry in the buffer would have to be freed up. If the transaction had not completed, then the reset would not of occurred.

In regards to claim 10, Horst discloses a processor that can be coupled to other processors to form a multiprocessor system and can exchange messages with the other processor in the system, the processor comprising:

router logic that can be coupled to at least one other processor (see figure 1B item 14A, 14B);

said router logic having at least one timer that expires when a message is not sent from the processor in a predetermined amount of time (see column 29 lines 10-14);

wherein each processor can send a plurality of different message types to other of said processors and each such other processor includes a separate timer associated with each of said message types to expire when a message of the associated message type is

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not sent from the processor in a predetermined amount of time (see column 29 lines 10-16).

In regards to claims 14, Horst discloses at least one register associated with each timer to permit the timer to be programmed (see column 28 line 65 to column 29 line 3).

In regards to claim 15, Horst discloses wherein each processor has at least one port connection to another processor and wherein each processor further includes a port timer associated with said port connection (see figure 1A, 1B, and 1C and column 12 lines 16 to 65, column 29 lines 6-8).

In regards to claim 16, Horst discloses wherein each port timer increments if the associated port is being used to send messages. Horst indicates begin marking a timeout period within which a response should be received (see column 29 lines 1-3).

In regards to claim 17, Horst discloses wherein the port timer is reset when a message is sent from the port (see column 29 lines 8-9).

In regards to claim 18, Horst discloses wherein the port timer is reset when a message is sent from the port that indicated that the receiving processor has freed up an entry in an input buffer. Horst discloses in every initiation of a transmission, a timer is reset (see column 29 lines 8-9). Each reset of a timer means that an previous transactions has been completed, indicating entry in the buffer would have to be freed up. If the transaction had not completed, then the reset would not of occurred.

Claims 25-28 are rejected under 35 U.S.C. §102(e) as being clearly anticipated by US Patent No. 6,353,616 of Elwalid et al. referred hereinafter "Elwalid".

In regards to claim 25, Elwalid discloses:

resetting a first timer when a message of a first type is sent and resetting a second timer when a message of a second type is sent. Elwalid discloses a plurality of routers, each router with a timer sections (see figure 1 and 2 and column 4 lines 45-55) and receiving UPDATE, PATH, RESV, and TEARDOWN messages (see column 5 lines 10-15). Thus, the instance when one router receives one message type, such as a UPDATE, and another router receives a second message type, such as a PATH, indicates a first timer for a first type and a second timer for a second type. Furthermore, Elwalid discloses

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upon processing of messages, such as a UPDATE message, resetting the corresponding timer and propagating the messages (see column 4 lines 37-40), thus indicating resetting a first timer when a message of a first type is sent and resetting a second timer when a message of a second type is sent.

if the first or second timer expires, disabling transmission of messages of the corresponding type (see column 5 lines 13-20)

In regards to claim 26, Elwalid discloses incrementing a first timer while a buffer holds a message of the first type (see column 4 lines 66-67 and column 5 lines 13-16).

In regards to claim 27, Elwalid discloses incrementing a second timer while a buffer holds a message of the second type.

In regards to claim 28, Elwalid discloses:

incrementing a third timer while a buffer holds a message of a third type (see column 4 lines 66-67 and column 5 lines 13-16);

resetting a third timer when a message of the third type is sent. Elwalid discloses a plurality of routers, each router with a timer sections (see figure 1 and 2 and column 4 lines 45-55) and receiving UPDATE, PATH, RESV, and TEARDOWN messages (see column 5 lines 10-15). The instance when a third router receives a third message type, such as a RESV, indicates a third timer for a third type. Furthermore, Elwalid discloses upon processing of messages, resetting the corresponding timer and propagating the messages (see column 4 lines 37-40), thus indicating resetting a third timer when a message of a third type is sent.

if the third timer expires, disabling transmission of the messages of the third type to the buffer without simultaneously disabling transmission of messages of the first and second types (see column 5 lines 13-20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be

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patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 25 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Horst in further view of US Patent No. 5,924,119 of Sindhu et al. referred hereinafter "Sindhu".

In regards to claim 25, Horst discloses:

resetting a first timer when a message of a first type is sent and resetting a second timer when a message of a second type is sent. Horst discloses setting or resetting a request timer when a request, is being sent (see column 28 lines 65-67). Horst further discloses if multiple outstanding request are desired to be managed, additional ones of request timers-one for each outstanding requests could be used (see column 29 lines 13-16), indicating a first and second timer and further discloses access request could be a read request or write request (see column 29 line 23), indicating a message of a first and second type.

Horst further discloses when the timer is not reset and the timer expires, a timeout signal is sent to notify the processor of an absence of a response to a particular transaction (see column 29 lines 10-13). However, Horst fails to disclose if the first or second timer expires, disabling transmission of messages of the corresponding type.

Sindhu discloses if the first or second timer expires, disabling transmission of messages of the corresponding type. Sindhu cites "to prevent congestion, there is a second flow control mechanism that may be invoked by any client device to demand a system-wide hold of the arbitrator. A demand for system wide hold temporary disables the arbiter from granting the bus for the transmission of request packets" (see column 9 lines 8-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Horst wherein if the first or second timer expires, disabling transmission of messages of the corresponding type. A person of ordinary skill would have been motivated to modify the teaching of Horst because Horst discloses buffering of packets to be transmitted (see column 20 line 64-65) and blocking

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further messages sent by the processor would prevent congestion by stopping continued buffering of packet to be transmitted, as per teaching of Sinhu (see column 9 lines 8-20).

Response to Arguments

Applicant's arguments filed April 1, 2005 have been fully considered but they are not deemed to be persuasive.

In response to applicant's argument "For example, independent claim 1 recites in part a "processor having at least one timer that expires when a message is not sent from the processor in a predetermined amount of time". Independent claim 10 recites a similar limitation. To anticipate these limitations, the examiner cites Horst at col. 29, lines 10-14, where Horst describes the operation of a request timer. However, Horst's request timer is not dependent on the failure to send the message, as is required by the claim" (see bottom paragraph page 8), examiner respectfully disagrees.

Claim 1 cites "a plurality of processors coupled together to permit messages to be transmitted *from one processor to another*" and "each processor having at least one timer that expires when a message is not sent from *the processor* in a predetermined amount of time". Examiner interprets "the processor" as the other processor which each processor is coupled to permit messages to be transmitted. Horst discloses starting a request timer, which expires when a response message is not sent from the other processor back to the requesting processor, thus indicating "a timer that expires when a message is not sent from the processor in a predetermined amount of time". Examiner maintains his rejection.

In response to applicant's argument "Independent claim 1 further recites "a separate timer associated with each of said message types to expire when a message of the associated message type is not sent in a predetermine amount of time. Independent claim 10 recites a similar limitation. To anticipate these limitations, the examiner cites Horst at col. 29, lines 10-16, where Horst describes the possibility of having a request timer for each of multiple outstanding requests. A request is but a single message type, so

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the cited portion of Horst Mills to teach or suggest a separate timer for each of multiple message types,” examiner respectfully disagrees.

Horst discloses a read access request and a write access request (see column 29 lines 22-23). Examiner constitutes a read access request as a first message type and a write access request as a second message type. Examiner maintains his rejection.

Conclusion

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See Form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emerson C Puente whose telephone number is (571) 272-3652. The examiner can normally be reached on 8-5 M-F.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W Beausoliel can be reached on (571) 272-3645. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ECP
6/2/05


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